

**Claims:**

1. A printer device comprising:

5 a data input device for receiving an encrypted digital document file;

a decryption algorithm for decrypting said received document file;

10 a controller for controlling printing of an image of data contained in said received document file; and

a printer mechanism for printing a physical copy of said document file,

15 wherein said controller operates to control printing of a predetermined quantity of said physical copy, and after printing of said physical copy, automatically deletes said electronic document file from said memory.

20 2. The printer device as claimed in claim 1, further comprising a decryption key locally stored in said printer device.

3. The printer device as claimed in claim 1, comprising a network interface for receiving said encrypted digital document file over a network.

25 4. The printer device as claimed in claim 1, wherein said controller stores a unique device identification data uniquely identifying said printer device, said controller operating to:

30 compare a received unique identifier data contained in said received document file with said stored unique device identifier; and

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if said received unique device identifier data differs from said stored unique device identifier data, delete said document file.

5        5.        The printer device as claimed in claim 1, wherein said controller stores a unique device identification data uniquely identifying said printer device, said controller operating to:

10        compare a received unique identifier data contained in said received document file with said stored unique device identifier; and

15        if said received document identification data is identical to said received unique device identifier data, control said print mechanism to print at least one said physical copy of said document file.

20        6.        The printer device as claimed in claim 1, wherein:

25        said controller operates to read a quantity permission data content of said document file, said quantity permission data specifying a number of authorised copies of said document file to be printed; and

30        said controller controls said printer mechanism such that said permitted quantity of physical copies of said document file are printed.

7.        The printer device as claimed in claim 1, wherein:

      said controller operates to generate a confirmation message confirming receipt of said document file.

8.        The printer device as claimed in claim 1, wherein;

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said controller operates to generate a confirmation message confirming receipt of said document file;

said confirmation message comprises a time and date data, specifying a time and date of receipt of said document file and a number of copies printed data, specifying a number of copies of said document file physically printed by said print mechanism.

9. A printer device comprising:

a data input device for receiving an encrypted digital document file;

a decryption algorithm for decrypting said received document file;

a controller for controlling printing of an image of data contained in said received documents file; and

a printer mechanism for printing a physical copy of said document file, wherein said controller operates to check a unique device identification data contained in said document file with a stored unique device identification data of said printer device, and provided a successful match is found, print said physical copy of said document file; and

if said received unique device identifier differs from said stored unique device identifier data, said controller operates to delete said document file without printing a physical copy of said document file.

10. A computer entity configured for sending secure encrypted document files, said computer entity comprising:

a data processor;

a memory;

an encryption algorithm capable of encrypting a document file;

a device selector for selecting a said uniquely identifiable recipient device;

a file selector for selecting a document file;

a stored list of a set of authorised recipient devices, each said recipient device identified by a unique device identifier data inaccessibly embedded within said computer entity;

wherein said computer entity operates to:

select at least one document file;

select at least one said uniquely identifiable recipient device to send said document to;

encrypt said document files; and

address said at least one document file to said selected uniquely identified recipient device.

11. The computer entity as claimed in claim 10, further comprising:

a network interface capable of sending said document file over a network to said selected recipient device.

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12. The computer entity as claimed in claim 10, further comprising a user interface capable of displaying a history list of document files sent, said history list comprising:

5 data describing a document file sent;

data describing at least one said recipient device to which said document file has been sent;

10 data describing a number of copies of documents said recipient device is authorised to print from said received document file.

13. The computer entity as claimed in claim 10, wherein said user interface further displays:

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data describing an encryption method used for sending said document.

14. The computer entity as claimed in claim 10, wherein said user interface displays:

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an acknowledgement message data describing receipt of said document file by a said recipient device.

15. A distributed secure document printing system, said system comprising:

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at least one sending computer entity, capable of sending an encrypted electronic document file, said document file having an encrypted data content, and a unique device identifier data identifying a recipient printer device to which said document file is intended to be printed by; and

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at least one recipient printer device, said recipient printer device capable of receiving said encrypted document file, establishing that said document file is intended for said recipient printer device, decrypting and printing said document file, and automatically deleting said electronic document file after printing a physical copy of a document from said document file.

16. The system as claimed in claim 15, wherein said recipient printer device is capable of reading a permitted quantity data content of said document file; and

said recipient printer device operates for printing a number of physical copies of said document file, corresponding to said permitted quantity data.

17. The system as claimed in claim 15, wherein:

said recipient printer device is configured to send a confirmation message back to said sending computer entity, confirming receipt of said document file, and confirming printing of a specified permitted number of copies of said document file.

18. A method of securely communicating an electronic document file over a network, said method comprising the steps of:

encrypting said document file;

specifying a recipient device for sending said document file to, said recipient device being uniquely identifiable by a unique device identifier data;

attaching said unique identifier data to said document file;

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sending said document file in encrypted format to said intended recipient device;

receiving said transmitted document file and decrypting said document file;

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reading said unique device identifier data of said document file;

if said unique device identifier data of said document file corresponds to a unique device identifier data of said recipient device, printing a physical copy of said document file; and

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if said unique device identifier data of said document file does not correspond with said unique device identifier data of said recipient device, deleting said received document file without printing a physical copy of said document file.

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19. The method as claimed in claim 18, further comprising the step of:

after printing said physical copy, deleting said electronic document file from said recipient device;

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20. The method as claimed in claim 18, further comprising the step of:

specifying a permitted quantity of physical copies of said document file to be printed; and

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printing said permitted number of copies of said document file.

21. A method of secure printing of a received document file, said method comprising the steps of:

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receiving said document file in encrypted format at a receiving device;

decrypting said document file;

5        reading a unique device identifier data identifying a recipient device for  
which said document file is intended;

      comparing said unique device identifier data with a locally stored device  
identifier data stored at said receiving device;

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      if said received unique device identifier data corresponds with said locally  
stored device identifier data, printing at least one physical copy of said document  
file;

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      if said received unique device identifier data differs from said stored unique  
device identifier data, deleting said document file.

22.        The method as claimed in claim 21, further comprising the step of:

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      deleting said electronic document file, after printing said physical copy of  
said document file.

23.        The method as claimed in claim 21, further comprising the step of:

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      reading a permitted quantity data describing a permitted quantity of copies  
of said document file; and

      printing said permitted quantity of copies of said document file.



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24. The method as claimed in claim 21, wherein said document file, after decryption is prevented from being viewed on a visual display device prior to printing.

5 25. The method as claimed in claim 21, wherein said document file is received via an intermediary carrier device having data storage capability.

26. A method of sending a document file for printing by a specified authorised recipient printing device, said method comprising the steps of:

10 selecting a content of said document file;

encrypting said content;

15 attaching a unique device identifier data, identifying a recipient device to which said document file is to be sent; and

sending said document file to said recipient device.

20 27. The method as claimed in claim 26, further comprising the step of:  
adding a permitted quantity data to said document file, said permitted quantity data specifying a permitted number of copies of said document file which can be printed.

25 28. The method as claim in claim 26, further comprising the steps of:  
storing a document history data, said document history data specifying for said document file:

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a list of at least one recipient device to which said document file may be sent;

5 a number of permitted copies of said document file which are permitted to be printed by each said recipient device.

29. A computer entity comprising a data processor, a data storage device, a printer port, and having an attached printer device, said computer entity comprising:

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a module for decrypting an encrypted document file;

a unique device identifier for identifying said computer entity;

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wherein said computer entity operates to:

receive a document file in encrypted format;

decrypt said document;

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extract a unique device identifier data from said document;

compare said extracted unique identifier data with said unique device identifier of said computer entity;

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if a match is found between said received unique device identifier data of said document and said unique identifier of said computer entity, send a said document file for printing by said attached printer device; and

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after sending said document to said printer device, delete said document file from said computer entity.

30. A method of secure printing of a received document file, said method comprising the steps of:

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receiving said document file in encrypted format;

reading a unique device identifier data identifying a recipient device for which said document file is intended;

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comparing said unique device identifier data with a locally stored identifier data corresponding to a local computer entity device;

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if said locally stored identifier data differs from said unique device identifier data identifying said recipient device for which said document file is intended, deleting said document file without printing any physical copies of said document file.

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31. A method of secure printing of a received document file, said method comprising the steps of:

receiving said document file in encrypted format;

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reading a unique device identifier data identifying a recipient device for which said document file is intended;

comparing said unique device identifier data with a locally stored device identifier data;

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reading a permitted quantity data describing a permitted quantity of copies of said document file; and

if said received unique device identifier data corresponds with said locally stored device identifier data, printing said permitted quantity of copies of said document file.

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32. A printer device comprising:

a data input device for receiving an encrypted digital document file;

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a decryption algorithm for decrypting said received document file;

a controller for controlling printing of an image of data contained in said received document file; and

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a printer mechanism for printing a physical copy of said document file,

wherein said printer device locally stores a decryption key for operating said decryption algorithm to decrypt said received document file.

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33. A printer device comprising:

a data input device for receiving a digital document file;

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a controller for controlling printing of an image of data contained in said received document file; and

a printer mechanism for printing a physical copy of said document file,

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wherein said controller operates to compare a received unique identifier data contained in said received document file with a locally stored unique device identifier data stored at said printer device;

if said received unique identifier data matches said stored unique device identifier, control printing of at least one said physical copy of said document file; and

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if said received unique identifier data contained the said received document file does not match said stored unique device identifier data, to inhibit printing of any physical copies of said document file.

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34. A printer device as claimed in claim 33, wherein:

said controller operates to control printing of a predetermined quantity of said physical copy, wherein said predetermined quantity is specified in said received document file.

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35. A printer device comprising:

a data input device for receiving an encrypted digital document file;

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a decryption algorithm for decrypting said received document files;

a controller for controlling printing of an image of data contained in said received document file; and

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a printer mechanism for printing a physical copy of said document file,

wherein a decryption key is stored locally in said printer device for operating said decryption algorithm to decrypt said received document files;

said controller operates to compare a received unique identifier data contained in said received document file with a locally stored unique device identifier data stored at said printer device;

5        if said received unique identifier data matches said stored unique device  
       identifier, control printing of at least one said physical copy of said document file;  
       and

if said received unique identifier data contained the said received document  
10 file does not match said stored unique device identifier data, to inhibit decryption  
of said document file and inhibit printing of any physical copies of said document  
file.